

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-13 are pending in the above-identified application. Claims 1-3 are amended and new claims 4-13 are added by the present amendment. Applicant respectfully submits that support for amended claims 1-3 and for new claims 4-13 is self-evident from Applicant's originally-filed disclosure, including Figures 5A, 5B, 6, and 7. Thus, no new subject matter is introduced by the foregoing amendment.

The Office Action object to claim 1 for an informality. Also, claims 1-3 were rejected under 35 U.S.C. §102(e) as anticipated by Tachibe et al. (U.S. Patent No. 6,195,190; hereinafter "Tachibe").

Regarding the objection to claim 1, the term "house" is replaced with "housing" by the foregoing amendment, as suggested in the Office Action. As such, Applicant respectfully submits that this claim objection is sufficiently addressed by the foregoing amendment.

Regarding the rejection under 35 U.S.C. §102(e), Applicant respectfully submits that Tachibe fails to anticipate amended claims 1-3.

For example, amended claim 1 recites, among other features, that:

...said mechanical deflector is directly mounted to said housing, and material of said housing has heat conductivity smaller than that of a part of said mechanical deflector in contact with said housing so as to reduce heat transfer from the mechanical deflector to components of the first optical system and of the second optical system through the housing.

Referring to the non-limiting example of Applicant's Figure 5B, a polygon scanner 8 is directly mounted to a housing body 20A. The housing body 20A has a material with a heat conductivity smaller than a heat conductivity of a part of the polygon scanner 8 that contacts the housing body 20A (e.g., a mounting plate 8a). That is, for example, the mounting plate 8a conducts heat faster than the housing body 20A conducts heat.

In this way, a temperature increase in other optical components of the optical scanning device can be reduced, as heat from the polygon scanner 8 is not easily transmitted to the housing body 20A.

Tachibe does not teach each and every feature of amended claim 1. Tachibe depicts an optical beam scanning device including a polygon mirror unit 6 having an iron substrate 13, a motor 14, a polygon mirror 15, and a driving circuit including an integrated circuit 16.<sup>1</sup> However, Tachibe does not depict a mechanical deflector directly mounted to a housing, as recited in amended claim 1. For example, the iron substrate 13 of the polygon mirror unit 6 is not directly mounted onto a casing 2. Rather, the iron substrate 13 is attached to the casing 2 via an elastic sheet 17, which is not part of the polygon mirror unit 6, to “avoid direct contact between metals.”<sup>2</sup> Amended claim 1, in contrast, recites that “said mechanical deflector is directly mounted to said housing,” which is not shown in Tachibe.

Further, Tachibe does not disclose that material of a housing has a heat conductivity smaller than the heat conductivity of a part of a mechanical deflector that contacts the housing, as recited in amended claim 1. For example, Tachibe describes the casing 2 as being made of magnesium,<sup>3</sup> but does not describe any part of the polygon mirror unit 6 as (1) contacting the casing 2, as discussed above, and (2) having a heat conductivity greater than the heat conductivity of the casing 2. In fact, the heat conductivity of the casing 2 is intentionally set higher than the heat conductivity of the iron substrate 13 to draw heat away from the iron substrate 13.<sup>4</sup> As such, the arrangement of Tachibe does not “reduce heat transfer from the mechanical deflector to

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<sup>1</sup> See, e.g., Tachibe at Figure 2 and at col. 6, lines 56-59.

<sup>2</sup> See *id.* at Figure 2 and at col. 7, lines 37, 38, and 59-65.

<sup>3</sup> See, e.g., *id.* at col. 7, lines 22-25.

<sup>4</sup> See, e.g., *id.* at col. 7, lines 18-20 and 53-58.

components of the first optical system and of the second optical system through the housing,” as recited in amended claim 1.

Therefore, for at least the reasons discussed above, Tachibe fails to teach each and every feature of amended claim 1 and, thus, fails to anticipate amended claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §102(e). Amended claims 2 and 3 depend from amended claim 1 and are also patentable for at least the reasons discussed above.

In addition, Applicant respectfully submits that new claims 4-13 also patentably define over Tachibe. For example, new independent claim 4 recites, among other features, that:

...the deflector mounting plate is mounted to the bottom housing plate such that the deflector mounting plate contacts the bottom housing plate, the bottom housing plate has a first heat conductivity, the deflector mounting plate has a second heat conductivity, and the first heat conductivity is smaller than the second heat conductivity.

For at least the reasons discussed above with respect to amended claim 1, Tachibe fails to teach each and every feature of new claim 4. For example, the iron substrate 13 of Tachibe is not mounted to the casing 2 such that the iron substrate 13 contacts the casing 2.

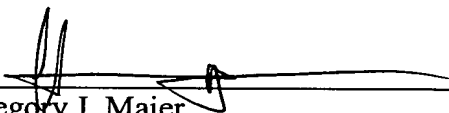
Further, new claim 9 is drawn to a method for performing optical scanning, including, among other features, mounting a deflector mounting plate of a mechanical deflector directly to a bottom housing plate of a housing, the bottom housing plate having a heat conductivity smaller than a heat conductivity of the deflector mounting plate. For at least the reasons discussed above with respect to amended claim 1, Tachibe also fails to teach each and every feature of new claim 9. For example, the iron substrate 13 of Tachibe is not mounted to the casing 2 such that the iron substrate 13 contacts the casing 2.

Accordingly, Applicants respectfully submit that new claims 4 and 9, and new claims depending from claims 4 and 9, patentably define over Tachibe.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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